

AMENDMENTS TO THE CLAIMS

In the claims, prior to calculation of the filing fee please amend:

WHAT IS CLAIMED IS:

Claim 1 (currently amended): An optical fiber, said fiber having a core and a sheath, said ~~sheath~~ fiber having at least one parameter that varies from an input end of said fiber to an output end thereof in a manner to maintain constant power loss per unit length over the length of said fiber.

Claim 2 (original): An optical fiber as in claim 1 wherein said core is fabricated in a manner to be sensitive to a target chemical.

Claim 3 (original): An optical fiber as in claim 1 wherein said sheath includes a cladding and said cladding is fabricated in a manner to be sensitive to a physical quantity.

Claim 4 (original): An optical fiber as in claim 1 wherein said core is fabricated in a manner to be sensitive to a physical quantity.

Claim 5 (original): An optical fiber as in claim 1 wherein said sheath includes a cladding and said cladding is fabricated in a manner to be sensitive to a target chemical.

Claim 6 (original): An optical fiber as in claim 1 wherein said one parameter comprises an increase in the diameter of said core from said input end to said output end.

Claim 7 (currently amended): An optical fiber as in claim 1 wherein said sheath includes a cladding and wherein said one parameter comprises the core/cladding refractive index ratio.

Claim 8 (original): An optical fiber as in claim 1 wherein said one parameter comprises an increase in the absorption coefficient of said fiber from said input end to said output end.

Claims 9-16 (canceled)

Claim 17 (original): An optical fiber, said fiber having a core and a cladding, said cladding being fabricated to be sensitive to a physical quantity, said fiber having at least one parameter that varies from an input end to an output end in a way calculated to make the power loss vary in a controlled way over the length of the fiber.

Claim 18 (original): An optical fiber as in claim 17 wherein said one parameter comprises an increase in the diameter of said core from said input end to said output end.

Claim 19 (original): An optical fiber as in claim 17 wherein said one parameter comprises the core/cladding refractive index ratio.

Claim 20 (original): An optical fiber as in claim 17 wherein said one parameter comprises an increase in the scattering coefficient of said fiber from said input end to said output end.

Claim 21 (original): A distributed fiber optic sensor comprising a multi-mode fiber having a core and a permeable cladding, said cladding including a composition responsive to an external material to generate a light signal characteristic of that response, said fiber having at least one parameter that varies as a function of position within the fiber to compensate for any non-linear power loss over the length of said fiber.

Claim 22 (original): An optical fiber as in claim 21 wherein said one parameter comprises an increase in the diameter of said core from said input end to said output end.

Claim 23 (original): An optical fiber as in claim 21 wherein said one parameter comprises the core/cladding refractive index ratio.

Claim 24 (original): An optical fiber as in claim 21 wherein said one parameter comprises an increase in the absorption coefficient of said fiber from said input end to said output end.

Claim 25 (original): An optical fiber as in claim 21 wherein said composition is characterized by an increase in scattering coefficient from an input to an output end of said fiber.

Claim 26 (original): An optical fiber as in claim 21 also including a light sensor at an output end thereof.

Claim 27 (currently amended): An optical fiber as in claim 26 said fiber having a light source at ~~the~~ an input end thereof. [[.]]